

AMENDMENTS TO THE CLAIMS

The listing of claims below replaces all prior versions of claims in the application.

1. (Previously Presented) A method of manufacturing a semiconductor device,
comprising:

 forming an insulating film over a semiconductor substrate;

 forming a lower layer of a lower-electrode conductive film on the insulating film while
keeping substrate temperature at a temperature higher than room temperature and lower than
200 °C, where the lower layer includes a titanium layer;

 forming an upper layer of the lower-electrode conductive film on the lower layer;

 forming a ferroelectric film on the lower-electrode conductive film;

 forming an upper-electrode conductive film on the ferroelectric film; and

 forming a ferroelectric capacitor by patterning the upper-electrode conductive film, the
ferroelectric film, and the lower-electrode conductive film.
2. (Original) The method according to claim 1, wherein the lower layer of the lower-
electrode conductive film is formed by sputtering.
3. (Canceled)
4. (Original) The method according to claim 3, wherein an orientation direction of the
lower layer of the lower-electrode conductive film is a (002) direction.

5. (Original) The method according to claim 1, wherein any one of a single-layer film and a multilayer film, which are made of any one of platinum, iridium, ruthenium, palladium, platinum oxide, iridium oxide, ruthenium oxide, palladium oxide, and an alloy thereof, is formed as the upper layer of the lower-electrode conductive film.

6. (Original) The method according to claim 5, wherein an orientation direction of the upper layer of the lower-electrode conductive film is a (222) direction.

7. (Original) The method according to claim 1, wherein any one of a film made of any one of $\text{Pb}(\text{Zr},\text{Ti})\text{O}_3$, $(\text{Pb},\text{La})(\text{Zr},\text{Ti})\text{O}_3$, SrTiO_3 , $(\text{Ba},\text{Sr})\text{TiO}_3$, $\text{SrBi}_2(\text{Ta}_x\text{Nb}_{1-x})_2\text{O}_9$ ($0 < x \leq 1$), and $(\text{Pb},\text{La})(\text{Zr},\text{Ti})\text{O}_3$, and a film made of a material in which $\text{Pb}(\text{Zr},\text{Ti})\text{O}_3$ is doped with at least any one of calcium, strontium, and lanthanum is formed as the ferroelectric film.

8. (Original) The method according to claim 7, wherein an orientation direction of the ferroelectric film is a (111) direction.

9. (Original) The method according to claim 1, wherein quality of the insulating film is improved by exposing a surface of the insulating film to NH_3 plasma before the lower layer of the lower-electrode conductive film is formed.

10. (Original) The method according to claim 1, wherein H₂O is added to an atmosphere
in which the lower layer of the lower-electrode conductive film is formed.

11. (New) The method according to claim 1, wherein the lower layer of the lower-
electrode conductive film is formed by DC sputtering.